[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0667; Directorate Identifier 2016-SW-053-AD]

RIN 2120-AA64

Airworthiness Directives; Bell Helicopter Textron Canada Limited (Bell) Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for Bell Model 407 helicopters. This proposed AD would require repetitive inspections of the tail rotor (TR) driveshaft segment assemblies and a torque check of the TR adapter retention nuts. This proposed AD is prompted by a report of an in-flight failure of the TR drive system. The proposed actions are intended to detect and correct an unsafe condition on these products.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to http://www.regulations.gov. Follow the online instructions for sending your comments electronically.

- Fax: 202-493-2251.

- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- Hand Delivery: Deliver to the "Mail" address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-0667; or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the Transport Canada AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed rule, contact Bell Helicopter Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J1R4; telephone (450) 437-2862 or (800) 363-8023; fax (450) 433-0272; or at http://www.bellcustomer.com/files/. You may review the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

FOR FURTHER INFORMATION CONTACT: David Hatfield, Aviation Safety Engineer, Safety Management Group, Rotorcraft Directorate, FAA, 10101 Hillwood Pkwy, Fort Worth, TX 76177; telephone (817) 222-5110; email david.hatfield@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

Discussion

Transport Canada, which is the aviation authority for Canada, has issued Canadian AD No. CF-2016-21, dated July 7, 2016 (AD CF-2016-21), to correct an unsafe condition for Bell Model 407 helicopters. Transport Canada advises that a Model 407 helicopter experienced in-flight failure of the TR drive system, which resulted in loss of directional control. The helicopter landed safely with substantial damage to the TR segmented shaft and adapter splines, coupling, and hanger bearings. According to

Transport Canada, the splines connecting the adapter part number (P/N) 406-040-328-105 to the shaft assembly P/N 407-040-330-107 were "severely worn and no longer capable of performing their function." The investigation further revealed other Model 407 helicopters with the same axial and radial play or looseness of some splined connections. AD CF-2016-21 states that these parts should be clamped together with threaded fasteners with no detectable looseness. Transport Canada advises that undetected looseness at the splined connection could result in wear of the parts and eventual loss of directional control of the helicopter.

For these reasons, AD CF-2016-21 requires a repetitive inspection of the TR driveshaft assemblies for play and a one-time torque verification of the TR adapter retention nuts.

FAA's Determination

These helicopters have been approved by the aviation authority of Canada and are approved for operation in the United States. Pursuant to our bilateral agreement with Canada, Transport Canada, its technical representative, has notified us of the unsafe condition described in its AD. We are proposing this AD because we evaluated all known relevant information and determined that an unsafe condition is likely to exist or develop on other products of the same type design.

Related Service Information Under 1 CFR part 51

We reviewed Bell Alert Service Bulletin (ASB) 407-16-113, dated February 12, 2016 (ASB 407-16-113), which specifies procedures for inspecting the TR driveshaft assemblies for noticeable rotational or axial play between each adapter and TR

driveshaft. ASB 407-16-113 also specifies procedures for performing a torque check of each TR adapter retention nut on the four TR driveshaft segments.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Proposed AD Requirements

This proposed AD would require inspecting each TR driveshaft segment assembly for rotational and axial play between the adapter and the TR driveshaft and determining the installation torque of each adapter retention nut. For helicopters with 4,000 or more hours time-in-service (TIS), the driveshaft assembly inspection would be required within 50 hours TIS. For helicopters with less than 4,000 hours TIS, the driveshaft assembly inspection would be required within 100 hours TIS. Thereafter, these inspections would be required at intervals not to exceed 330 hours TIS. The torque verification of the adapter retention nuts would be a one-time inspection.

- If there is play or looseness in the TR driveshaft, the proposed AD would require correcting the discrepant splined fitting before further flight.
- The proposed AD would also require replacing the adapter retention nut anytime the adapter is re-assembled.

Costs of Compliance

We estimate that this proposed AD would affect 667 helicopters of U.S. Registry. We estimate that operators may incur the following costs in order to comply with this proposed AD. At an average labor rate of $85 per hour, inspecting the TR driveshaft segments and adapters for play would require about 1 work-hour, for a cost per helicopter

of $85, and a total cost of $56,695 to the U.S. fleet per inspection cycle. Determining the torque of the four adapter retention nuts would require about 3 work-hours for a cost per helicopter of $255 and a total cost of $170,085 to the U.S. fleet.

If required, repairing a worn driveshaft adapter would require about 3 work-hours, and required parts would cost about $1,259, for a cost per helicopter of $1,514.

Replacing an adapter retention nut would require about 1 work-hour, and required parts cost are negligible, for a cost of $85 per helicopter and $56,695 for the U.S. fleet per inspection cycle.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct

effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and

4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Bell Helicopter Textron Canada Limited (Bell): Docket No. FAA-2017-0667; Directorate Identifier 2016-SW-053-AD.

(a) Applicability

This AD applies to Bell Model 407 helicopters, certificated in any category.

(b) Unsafe Condition

This AD defines the unsafe condition as a loose tail rotor (TR) driveshaft splined connection, which if not corrected could result in wear in the splines, failure of the TR drive system, and subsequent loss of directional control of the helicopter.

(c) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(d) Compliance

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(e) Required Actions

For helicopters with less than 4,000 hours time-in-service (TIS), within 100 hours TIS, and for helicopters with 4,000 or more hours TIS, within 50 hours TIS:

(1) Inspect each TR driveshaft segment assembly for rotational and axial play between the adapter and the TR driveshaft at the four positions depicted in Figure 1 of Bell Alert Service Bulletin (ASB) 407-16-113, dated February 12, 2016 (ASB 407-16-

113). If there is any axial or rotational play, remove the adapter from the TR driveshaft segment assembly and inspect the adapter, washers, and TR driveshaft for damage. Replace the adapter retention nut and apply a torque of 30 to 50 inch-pounds (5.7 to 7.9 Nm). Replace any part with damage or repair the part if the damage is within the maximum repair damage limitations.

(2) Determine the torque of each TR adapter retention nut at each of the four segment assembly positions depicted in Figure 1 of Bell ASB 407-16-113. If the torque is less than 30 inch-pounds (5.7 Nm), remove the adapter from the TR driveshaft segment assembly and inspect the adapter, washers, and TR driveshaft for damage. Replace the adapter retention nut and apply a torque of 30 to 50 inch-pounds (5.7 to 7.9 Nm). Replace any part with damage or repair the part if the damage is within the maximum repair damage limitations.

(3) Repeat the actions specified in paragraph (e)(1) of this AD at intervals not to exceed 330 hours TIS.

(f) Special Flight Permits

Special flight permits are prohibited.

(g) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: David Hatfield, Aviation Safety Engineer, Safety Management Group, Rotorcraft Directorate, FAA, 10101 Hillwood Pkwy, Fort Worth, TX 76177; telephone (817) 222-5110; email 9-ASW-FTW-AMOC-Requests@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or

lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

(h) Additional Information

The subject of this AD is addressed in Transport Canada AD No. CF-2016-21, dated July 7, 2016. You may view the Transport Canada AD on the Internet at http://www.regulations.gov in the AD Docket.

(i) Subject

Joint Aircraft Service Component (JASC) Code: 6510 Tail Rotor Drive Shaft.

Issued in Fort Worth, Texas, on June 27, 2017.

Scott A. Horn,

Acting Manager, Rotorcraft Directorate,
Aircraft Certification Service.

[FR Doc. 2017-14231 Filed: 7/6/2017 8:45 am; Publication Date: 7/7/2017]